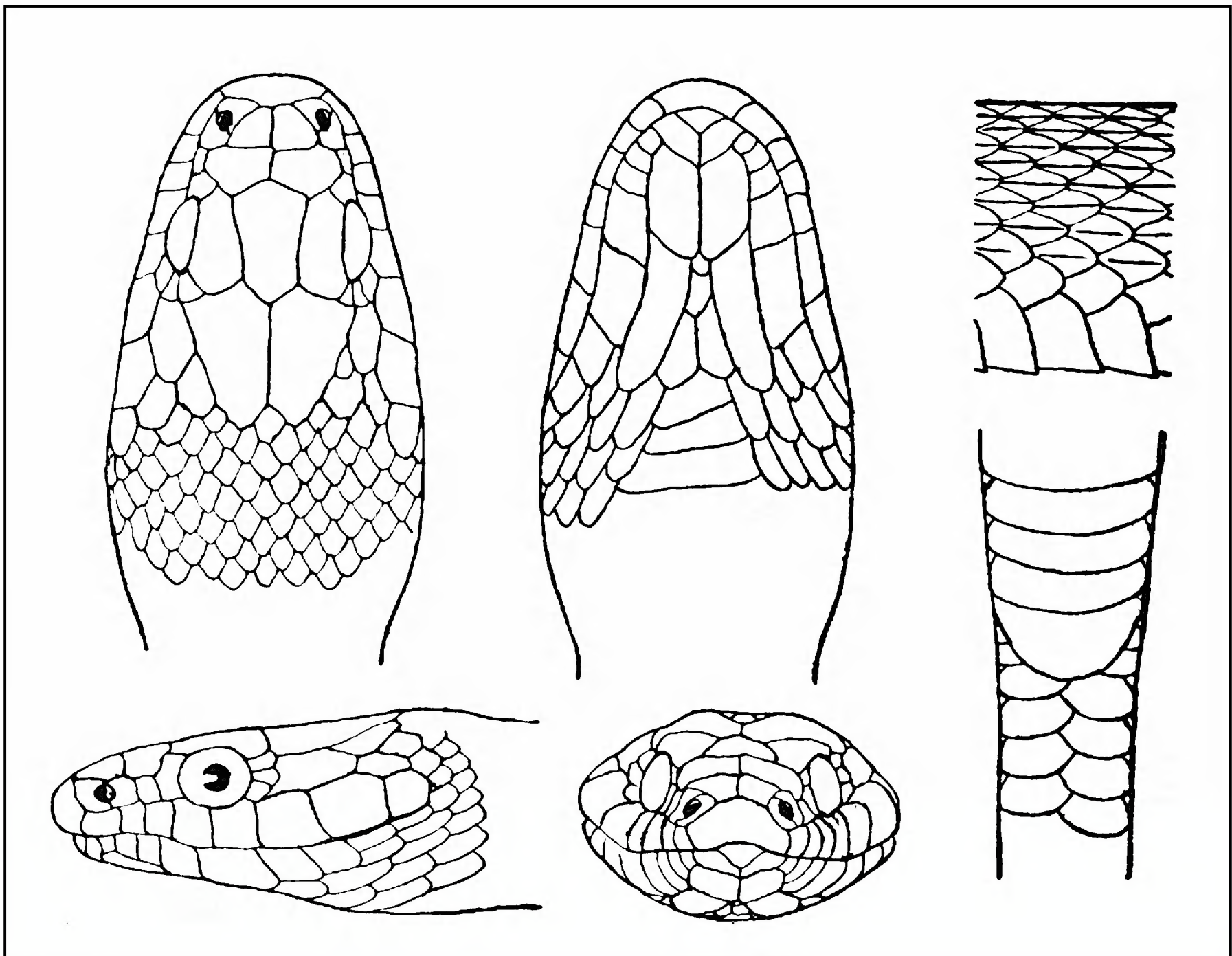

BULLETIN

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BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY

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Cover: *Eutaenia macrostemma macrostemma* Kennicott [= *Thamnophis eques eques* (Reuss)]. Drawing from "The Crocodilians, Lizards, and Snakes of North America" by Edward Drinker Cope, 1900, Part II of the Annual Report of the U.S. National Museum for the Year Ending June 30, 1898.

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Two Size Records for California Snakes

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"Maximum Lengths of North American Snakes" [Bull. Chicago Herp. Soc. 30(6):109-122 (1995)] by Jeff Boundy has proved to be an excellent resource for herpetologists and herpetoculturists.

The authors wish to document two snakes in the Chaffee Zoological Gardens (Fresno, CA) collection which exceeded lengths recorded in the Boundy article.

On 12 September 1994 the Chaffee Zoological Gardens Department of Herpetology was pleased to give a behind-the-scenes tour to Dr. Robert C. Stebbins and Anna Rose Stebbins. During their visit, we asked Dr. Stebbins to measure the zoo's

large display male Sierra mountain kingsnake (*Lampropeltis zonata multicincta*).

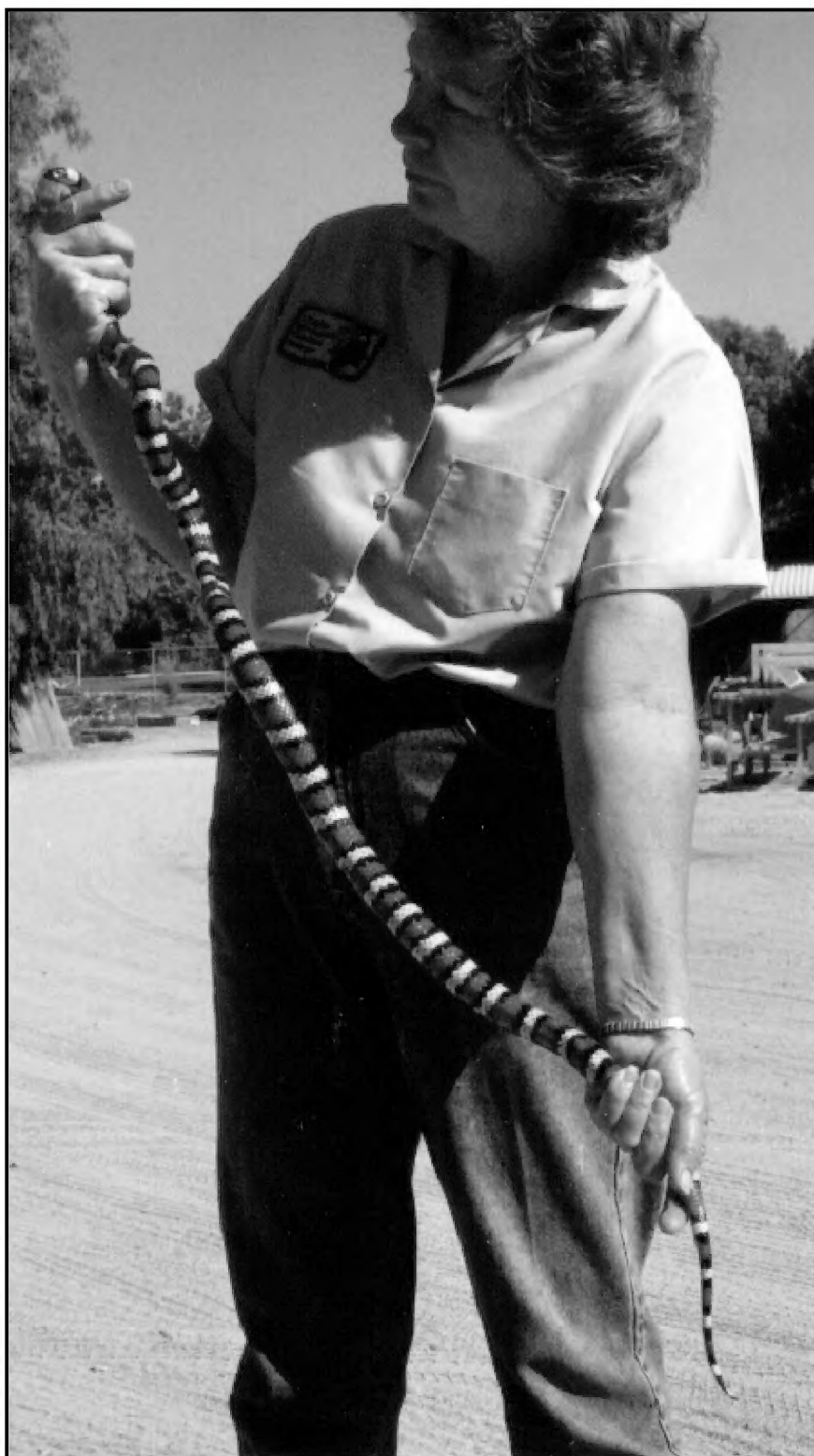
When measured in September 1994 by Dr. Stebbins, this snake had a snout-vent length (SVL) of $40\frac{3}{4}$ in (103.5 cm) and a tail length of $6\frac{5}{8}$ in (16.8 cm) for a total length of $47\frac{3}{8}$ in (120.3 cm).

Approximately two years later on 26 August 1996, this Sierra mountain kingsnake, still alive and in good health, was remeasured and found to have grown slightly. It has a current SVL of $41\frac{1}{6}$ in (105.6 cm) and a tail length of $6\frac{5}{8}$ in (16.8 cm) for a total length of $48\frac{3}{6}$ in (122.4 cm).

This exceeds the previously recorded length of $46\frac{1}{4}$ in (117.5 cm) set by another long-term captive Sierra mountain kingsnake in the Chaffee Zoological Gardens collection from 1978 until its death on 18 August 1985 (McKeown, 1991).

On 11 June 1989 at 0930 h, James Whisenant, then a Chaffee Zoological Gardens reptile section volunteer and currently an animal keeper at the Fort Worth (Texas) Zoological Park, caught a large male Pacific gopher snake (*Pituophis catenifer catenifer*) in northwest Fresno, Fresno County, California. The snake, which was in good health, was collected next to the police firing range, approximately 500 yards NE of Freeway 99 and Herndon Avenue in a grassy area under a eucalyptus tree. The air temperature at the time was 75–80°F (24–27°C), the sky was overcast, and there was a light wind.

This snake was brought to the Chaffee Zoo. Because of its huge size, we hoped to be able to use it for future display.



Mary Morgan, Lead Reptile Keeper at Chaffee Zoological Gardens, Fresno, California, holds a 4-ft+ male Sierra mountain kingsnake.



Elaine Kenedy and a keeper holding an 84¼-in Pacific gopher snake (*Pituophis catenifer catenifer*) behind the reptile house at the Chaffee Zoological Gardens, Fresno, California.

This Pacific gopher snake was weighed and measured by the zoo reptile staff (the authors, Elaine Kenedy and James Whisenant) on 12 June 1989. It weighed 4.34 lbs (1.97 kg) and probed to a depth of $2\frac{5}{16}$ in (6.5 cm). This gopher snake was found to have a SVL of $74\frac{1}{16}$ in (188.1 cm) and a tail length of $10\frac{1}{16}$ in (27.1 cm) for a total length of 7 ft- $\frac{3}{4}$ in (215.3 cm). This exceeds the older record of 6 ft-3 in (190.5 cm) listed by Boundy (1995).

While rejecting freshly killed domestic mice, this gopher snake would readily consume thawed baby chicks at regular

two-week intervals. Regrettably, it never calmed down sufficiently for display. After a series of photographs were taken by the senior author, this snake was released, approximately one year later on 6 June 1990. It was released in oak/woodland habitat onto the nearby Sierra Nevada foothill ranch of senior keeper Paul Barkman, near Auberry, California. This snake was later observed in the wild by Paul Barkman in 1990 and 1991.

Photographs of both snakes accompany this article.

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Fences and Nesting Red-eared Sliders

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Aquatic turtles face many hazards during their nesting excursions. These range from various predators and other natural dangers (reviewed by Ernst et al., 1994) to many hazards associated with human activities (also reviewed by Ernst et al., 1994; Ernst, 1995). Although highway deaths are the most obvious result of these many man-made hazards, other less obvious hazards await nesting females. We were fortunate enough to be able to document and photograph an encounter between a female red-eared slider turtle (*Trachemys scripta elegans*) and a woven-wire fence.

Materials and Methods

This particular turtle was collected at 1120 hr CDT on 5 June 1996, 0.1 km N of the junction of Illinois Route 100 and

the Stump Lake access road in Jersey County, Illinois. The turtle was weighed and measured shortly after collection. We induced oviposition with oxytocin (Ewert and Legler, 1978). Eggs were weighed (to 0.01 g) and measured (to 0.1 mm) shortly after oviposition.

We measured the fence mesh and other features of the site where we found the turtle at the time of collection with a mm rule. The turtle was photographed in situ immediately after discovery without altering the site. This turtle was one of over 250 females collected from a number of nesting areas spaced along Illinois Route 100 in this area. We collected 28 other females at or very near the site where we found the particular female we report here.



Figure 1. Adult female red-eared slider turtle (*Trachemys scripta elegans*) trapped in a woven wire fence near Stump Lake, Jersey County, Illinois.



Figure 2. Front view of the same turtle in Figure 1 showing how she wedged her carapace into the mesh of the fence by angling the shell into the fence. The fence mesh is 171 mm wide and 103 mm high.



Figure 3. Oblique view of the same turtle in Figure 1 showing the holes dug by the front feet as she tried to pull her carapace through the fence mesh.

Results and Discussion

We found the turtle tightly jammed into the mesh of a woven-wire fence (Figure 1). The fence mesh measured 103 mm high $\times$ 171 mm wide. The turtle was a gravid female measuring 231 mm in carapace length, 217 mm in plastron length, 176 mm in maximum carapace width, and 92 mm in maximum carapace height. Her gravid mass was 1.9 kg. She laid 13 apparently normal eggs, which averaged 11.13 g in mass, 35.1 mm in length, and 23.1 mm in width.

The fence in which the turtle became trapped was less than

10 m long and was open at either end. Apparently, the female left Stump Lake, which was flooded at the time, and crossed Illinois Route 100 onto a mowed lawn to nest as do other turtles at this site. She apparently entered a small wood-lot adjacent to the usual nesting site for turtles that cross the road at this location. Upon leaving the wood-lot, she became trapped in the fence before she found a suitable place to lay her eggs. Although the mesh of the fence was high enough to allow her carapace to pass through, the width of the mesh was not (i.e., 171 mm wide mesh vs. a carapace width of 176 mm). When she slightly angled her carapace to complete passage through the fence, she became firmly wedged into the mesh of the fence (Figure 2).

Apparently, the turtle was trapped for some time because she had dug two holes under her front feet as she tried to pull herself through the fence (Figure 3). These holes measured 75 mm deep under the left front foot and 60 mm deep under the right front foot. We believe that this turtle would not have been able to escape the fence had we not happened along.

Clearly, woven wire fences can be hazardous for nesting female turtles when the mesh is large enough for the turtle to enter but too small for her to get through once she has started into the mesh. Although we found only this single instance, such accidents may be more frequent than is currently realized. Protective fences (e.g., Brooks, 1995) in management and conservation areas where nesting female turtles may be present should either have a mesh size large enough to allow passage of large adult turtles or narrow enough to discourage the attempt.

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Ophidian Evolution in the Numismatic History of Mexico

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Abstract

The national emblem of the Republic of Mexico and the United States of Mexico contains a snake in the grip of an eagle perched upon cactus. Until 1970 the snake had a long tapering tail and was hypothesized to be *Thamnophis eques eques*. A decree of December 30, 1969, resulted in the redesign of most Mexican coins, and this brought about the shift to an unambiguous rattlesnake in the grip of the eagle. Likely this welcome bit of ophidian evolution was associated with a return to native Indian artistic style which naturally brought along a return to native Indian subjects. As rattlesnakes were far more prominent subjects in pre-Columbian art than were garter snakes, it is not surprising that the snake in the grip of the eagle eventually evolved into a rattlesnake.

The Mexican national emblem is frequently illustrated on coins and paper money of that country, so that general features of the emblem are well known to all persons who handle Mexican legal tender. An eagle, perched on cactus, using its beak and dextral talon to grip a rattlesnake is an image so compelling that it is not easily forgotten. The snake on coins currently in circulation is unquestionably a rattlesnake, as may safely be inferred from the conspicuous caudal appendage. This has not always been true, however. Indeed, the history of Mexican coins reveals a fascinating sequence of changes, reflecting political, economic, military and artistic events of far reaching significance. Coins of the colonial period reflect strong European influence, including legends and busts of Spanish rulers such as Charles II, III, IV, Philip III, IV, V and Ferdinand VI, VII. Reverses bear arms (involving lions, castles and crowns), but no eagles or snakes. Crosses are not uncommon, and a variety of local devices begin to appear early in the nineteenth century. The eagle, usually perched on cactus, made its appearance in 1811 with the insurgent coinage of the Supreme National Congress of America, replacing the bust of Ferdinand VII, although his name continues to occupy the encircling legend for several more years. Father Miguel Hidalgo declared independence of Mexico from Spain on September 16, 1810, and this status was subsequently achieved in 1821 by General Agustin de Iturbide who became emperor in 1822 but was deposed in the next year when the Republic of Mexico was created. The eagle perched on cactus continued to occur in coinage between 1810 and 1822, either as a principle device in the original strike or as a countermark. Likewise the eagle on cactus appears on the reverses of all coins struck under the Empire of Iturbide. No snake occurs on any of these coins or on any of the insurgency issues.

A snake finally enters the grip of the eagle in early coins of the Republic (1824) and appears in hundreds of subsequent issues involving alterations in the eagle's orientation or in the snake's orientation. For well over a century, however, the snake was clearly not a rattlesnake, as it had a long tapering tail. The snake's head was often large, much wider than its neck, consistent with the appearance of a pit viper, but there was no rattle. Cope (1900) suggested that the identity of the

snake was *Eutaenia macrostemma macrostemma* Kennicott [= *Thamnophis eques eques* (Reuss)].

This rattleless snake continued to appear on Mexican coins and paper money through the subsequent turbulent years, extending through and well beyond the devastating years of revolution (1910–1917). It was not until 1970 that the first rattlesnake appeared. Since then the snake has almost always been unambiguously identifiable as a rattlesnake. Several comments on this bit of ophidian evolution are in order.

Cope, 1900

Here is Cope's remarkable statement, made in a section of the famous 1900 volume where the topic was the garter snake, *Eutaenia macrostemma macrostemma* Kennicott.

This is the species which appears on the arms of Mexico. Tradition states that Cortes adopted the arms after observing an eagle (*Polyborus*) seize [sic] a water snake and carry it to a large cactus (*Opuntia*) in its talons. (p. 1030).

So powerful was the authority of E. D. Cope that the story is repeated in a recent volume devoted to the garter snakes (Rossman et al., 1996).

Cope (1900) pointed out that *Thamnophis eques* is the species of snake that appears on the Mexican coat of arms, Cortez reputedly having seen one of the garter snakes being seized by an eagle. (p. 177).

Cope was apparently not mindful of the temporal separation between the death of Cortez in 1547 and the emergence of the Mexican National emblem during the separation of Mexico from Spain more than two and one-half centuries later. Furthermore, we strongly suspect that if Cortez had anything at all to do with adopting the national emblem, then Catholic devices coupled with devices signifying the royalty of Spain would be dominating characteristics of the emblem.

The truth of the matter, we propose, is that Cope heard a fanciful version of an ancient story, which we reproduce below.

The original myth of the Mexica relates their release from bondage and their quest for a homeland of their own: The tribal god

Huitzilopochtli commanded that they should put down roots in the place where an eagle perched on a cactus bush was to be found attacking a serpent (the national emblem of the Republic of Mexico represents this sign). The portent appeared on a large island in Lake Texcoco, and the Mexica built their capital there in the middle years of the fourteenth century, calling it Tenochtitlán, the “place of the cactus.” (Williamson, 1992, p. 42)

Although Cope was a gifted biologist, he apparently was a rather gullible and credulous anthropologist. That he appeared not to question the “Cortezified” version of the ancient myth suggests that Cope was unaware of the original version and that he exerted no critical thought or historical research upon the matter.

Enter the Rattlesnake

Although the first coinage to show the rattlesnake was minted in 1970, during the presidency of Luis Echeverría Álvarez, the decree that brought about this great change occurred on December 30, 1969, as former president Gustavo Díaz Ordaz was about to leave office. It is instructive to read how this decree was described by numismatists.

A decree of December 30, 1969, redefined the elements of all coins up to the denomination of \$5. The brass 5¢ was reduced in size and struck with a newly designed hooked neck eagle obverse in which all the elements are represented two-dimensionally, without any relief, in the manner of a pre-Columbian illustration. (Buttrey and Hubbard, 1986, p. 180).

This decree and its effects are mentioned repeatedly by Buttrey and Hubbard (1986), frequently calling attention to a

return to native Indian artistic representation, always mentioning the eagle, but never mentioning the more momentous change in the herpetological component of the emblem. We might hypothesize, however, that the shift to a rattlesnake is consistent with the shift to pre-Columbian artistic style, as rattlesnakes played extensive roles in the art, architecture and religion of these people (Díaz Bolio, 1964; Howey, 1955; Morris and Morris, 1965).

Incidentally, although numismatists have been ornithologically biased in describing Mexican coins, I am certain that some have been quite aware of the herpetological developments. For example, Clyde Hubbard presented a paper on Mexican coins at the 1996 meeting of the American Numismatic Association, and during subsequent discussion he revealed knowledge of the great herpetological transition of 1970. He pointed out, however, that numismatists generally want to distinguish mintings and that the eagle and legend usually contain sufficient characters for this purpose. Hence, detailed study of the snake simply has been unnecessary from a numismatic point of view.

Chiszar and Smith, 1996

In our list of herpetological coins, virtually all such coins from Mexico were described as containing a rattlesnake. Clearly we were wrong, influenced too greatly by the modern Mexican money in our possession. Users of that checklist should recognize that the snake is rattleless and *Thamnophis eques*-like until 1970, and is always a rattlesnake thereafter.

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**Book Review: *Geographic Distributions of the Amphibians and Reptiles of Wisconsin*
by Gary S. Casper. 1996. 87 pp. Milwaukee Public Museum, Inc., Milwaukee, WI.
Softcover. \$10.00. ISBN 0-89326-2-5.**

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Richard C. Vogt's *Natural History of Amphibians and Reptiles in Wisconsin* quickly became the standard reference for Wisconsin herpetology following its publication in 1981. It remains so today, although it has been out of print for some time and is now difficult to obtain. Like most published distribution maps, the records included in Vogt's book were quickly outdated as new ones were rapidly reported (e.g., new geographic distribution records are included in more than 50 notes and articles listed in the most recent Wisconsin herpetological bibliography [Watermolen, 1992]). In addition, the range maps provided by Vogt (1981) lacked source references and did not include many previously published records. Gary Casper remedies this situation with *Geographic Distributions of the Amphibians and Reptiles of Wisconsin*.

This 87-page book is an interim report of the Wisconsin Herpetological Atlas Project, documenting more than 450 new distribution records. The Atlas Project, which began in 1986, is a scientific program of the Milwaukee Public Museum, Inc. with the goal of producing accurate distribution maps, assessing abundance and population trends, collecting natural history information, and producing a dynamic database to direct research and identify conservation needs for Wisconsin amphibians and reptiles (Casper, 1986).

Casper's book begins with a brief introduction outlining the background of the Atlas Project. Following this is a short section titled "How to Use this Book," which identifies the purpose of the book as "to provide a reference for 461 new county records . . . with some discussion on distribution and status." This section also describes what follows in terms of content and includes a brief description of the vegetative tension zone and the driftless area of southwestern Wisconsin. A short explanation of how people can participate in the Atlas Project and a lengthy list of acknowledgements complete the introductory sections.

The foundation of *Geographic Distributions of the Amphibians and Reptiles of Wisconsin* is a series of 55 species accounts with the most up-to-date distribution information now available for the state. Each account has an outline map of Wisconsin with counties shaded if documentation exists for a species anywhere within the county. County records reported by Vogt (1981) are indicated in black, and new records from the Atlas Project are shaded gray. The texts which accompany each map are concise, clearly written, and well-documented. Subspecies are treated together in a single account; this is appropriate since the ranges of most subspecies have not been well defined in the state. Vogt (1993) elevated false map turtles (*Graptemys pseudogeographica pseudogeographica*) and Ouachita map turtles (*G. p. ouachitensis*) to full species

status, but Casper did not have an opportunity to reexamine material in this light prior to publication so both are treated in a single species account.

My only criticism of the book is with the mapping strategy. The maps do not indicate whether or not the species is still found within the county. Furthermore, because entire counties are shaded to indicate presence, it is not possible to determine if the species is found throughout the county or only in a small portion of the county. By the author's admission, this is a strategy to prevent exploitation through overcollecting. Site-specific information, however, is conditionally available from the museum. While I recognize exploitation as a legitimate concern and appreciate the caution exercised, a finer level of resolution would make the book more usable by resource management and other professionals. For example, the common map turtle (*Graptemys geographica*) occurs in the lower Wisconsin River, which forms the border of several counties. In these counties, map turtles are most closely associated with the river and suitable habitat is generally not found away from the river. As a result, map turtle distribution could be better depicted as shading along the county boundaries where the turtles occur rather than throughout all seven counties bordering the river. This same strategy could be applied to this species in several counties bordering the Mississippi and other large rivers. Shading in this manner would more accurately reflect species' ranges. Alternatively, mapping at the township level with dots would provide even more accurate distributions, yet given the scale of presentation would protect specific sites sufficiently, especially for common species.

The Atlas Project requires a photograph or specimen at a permanent collection to constitute a "documented record." Undocumented records (even those in the Atlas Project database) are not mapped in this book. While I understand the value in this approach, it potentially misses some useful data sources such as the results of Wisconsin's annual frog and toad survey and important published historical records. For example, wood frogs (*Rana sylvatica*) have been reported from Dane County several times (e.g., Mossman and Hine, 1984, 1985), but the Atlas Project did not consider this species documented until 1995 when a voucher was collected. Also potentially lost as a result of this strategy are the literature records mapped by Vogt (1981) for the spotted salamander (*Ambystoma maculatum*) in Green County and spiny softshell turtle (*Apalone spinifera*) in Douglas County—the southernmost and northernmost Wisconsin records, respectively. One solution to this situation would be to make reference of these and other unverified (but reliable) records in the written accounts, alerting readers of the need for documentation in these areas.

I found only a few very minor errors in the species accounts. The mudpuppy (*Necturus maculosus maculosus*) is mapped as though Vogt (1981) recorded it from Pierce County (i.e., Pierce County is shaded black), but the map in Vogt (1981) does not include a Pierce County record. Similarly, Pepin County is shaded black for Blanchard's cricket frog (*Acris crepitans blanchardi*), but Vogt's (1981) map includes only a record mapped near the county line in adjacent Buffalo County. The text for the green frog (*Rana clamitans melanota*) account says that Vogt (1981) reported the species from 69–70 counties. It should say 70–71 counties.

A list of 73 references follows the species accounts, and these all appear to be accurate. The book concludes with two appendices. The first provides documentation for the maps listing source material for all new county records included in the book. The second is a key to collection acronyms. These add greatly to the value of the book as a reference for professionals.

Geographic Distributions of the Amphibians and Reptiles of Wisconsin is published in softcover and measures 6 by 9 inches. It is small enough to fit in an automobile glove compartment or backpack (field workers will want to purchase two copies, one to be carried in the field and one as a desk copy). The front cover has a nice photograph of a queen snake (*Regina septemvittata*) with the background cleverly cropped in the shape of the state. The back cover features a photograph of the author and a brief biographical sketch.

In spite of my simple criticisms, the book represents a major contribution to Wisconsin herpetology. Two thumbs up to Gary Casper for preparing this inexpensive and useful update. It is a welcome addition to the state's herpetological literature and will be valued by anyone interested in the zoo-geography of Upper Midwest vertebrates. Naturalists of all sorts will find it helpful, and it will undoubtedly result in a flurry of new records that may lead to new interpretations of species distributions.

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Bull. Chicago Herp. Soc. 31(12):223-224, 1996

The Phib File Amphibian Q&A by Dave Golde

Redworms as Food

The CHS Care in Captivity booklet states that redworms are "distasteful and possibly toxic" as a food for captive herps. I breed redworms and have fed them to fish with no ill effects and good acceptance. Redworms feed on virtually any organic matter so it is conceivable their systems are occasionally tainted. Given clean conditions and food I don't believe they are any worse than other annelids. I have refrained from feeding redworms to any herps I have due to the warning. I would like to determine if this warning is based upon prejudice or actual experiences? Thanks! Brian Carter, Concord, NH.

A commonly asked question, Brian. The statement in the CHS care sheet is in fact based on experience. I myself, before looking into it, fed my herps redworms I picked up at the bait shop. On numerous occasions I have witnessed frogs and salamanders snap them up, then violently spit them out.

The only herps I have ever seen actually eat and swallow redworms are American toads, snapping turtles, and brown snakes (*Storeria dekayi*), the latter regurgitating the worms after ten minutes. The snapping turtles and American toads obviously have a high tolerance to toxins judging by what they normally eat in the wild (for example, centipedes, millipedes, fireflies, milkweed bugs, festering carrion, etc.) It is important to note that tiger salamanders and even bullfrogs will not normally accept redworms. Everyone I have talked to has had similar problems with redworms. It is hard to believe that all the commercially available redworms are tainted by something they ate. As for the reason why fish will accept them—Hey, fish will eat spit, enough said.

When handling redworms you will notice they give off a sour-pickle-like smell, which I can only assume tastes the same way. This is presumably some kind of chemical defense utilized by the worm. I also believe that redworms have a

tougher and harder-to-digest skin than other annelids, which often results in the worm being regurgitated if accepted.

I find for my smaller salamanders leaf- or dill worms and for my tiger salamanders and bullfrogs good old Canadian 'crawlers are the best food available. These worms are heavier bodied, easier to digest, and available at any bait shop, making them a much better food choice for your herps. Thanks for the great question.

What to Feed Newts

What is the best food item for the common pet store variety of newts? Kate Roth-Whitworth, Chicago, IL

The common pet store variety of newts, the eastern (*Notophthalmus viridescens* ssp.), red-bellied (*Cynops pyrrhogaster*), fire-bellied (*Paramesotriton* sp.), and rough-skinned (*Taricha granulosa*) are generalized feeders. Variety should be emphasized in their diet. All the above-mentioned newts, even the highly aquatic eastern newt, should be provided with at least one square foot of damp land area with ground cover. Not only does this increase the newts' general health and well-being, it provides extra options for feeding. When housed in such conditions the newts can be fed small terrestrial invertebrates such as pinheads, fruit flies, white worms and leaf worms, as well as the more traditional newt diets such as frozen brine shrimp, blackworms and shrimp pellets.

Personally I believe that massive amounts of protein such as that found in beef heart and freeze-dried invertebrates, can have harmful long-term effects on any amphibian, leading to fatal kidney and liver conditions, greatly reducing the animal's potential life span.

A varied diet of live invertebrates is the best way to go when feeding newts. If that is not convenient a varied diet of any type of pelleted fish foods with a protein percentage of less than 40% such as goldfish, cichlid, or shrimp pellets will do. Always check the ingredients to be sure the protein is mostly animal-based (e.g., shrimp meal, fish meal, insect meal). With these types of diets newts can live well past five years.

How to Keep Emperor Newts Healthy

How do you keep emperor newts (a.k.a. crocodile or mandarin newts) alive for longer than a couple months? Bill Busby, Paddock Lake, IL.

There has been a lot of speculation on just how to keep emperor newts (*Tylototriton verrucosus*) alive and healthy for any great deal of time. They are extremely prone to fungal and bacterial infections, which is usually what brings them to their ultimate demise. Another problem that arises is very decreased or total lack of appetite. Both of these problems can be contributed to the same thing, improper husbandry.

Oftentimes emperor newts are kept entirely too warm and damp, stressing them, and leading to anorexia and immune deficiency.

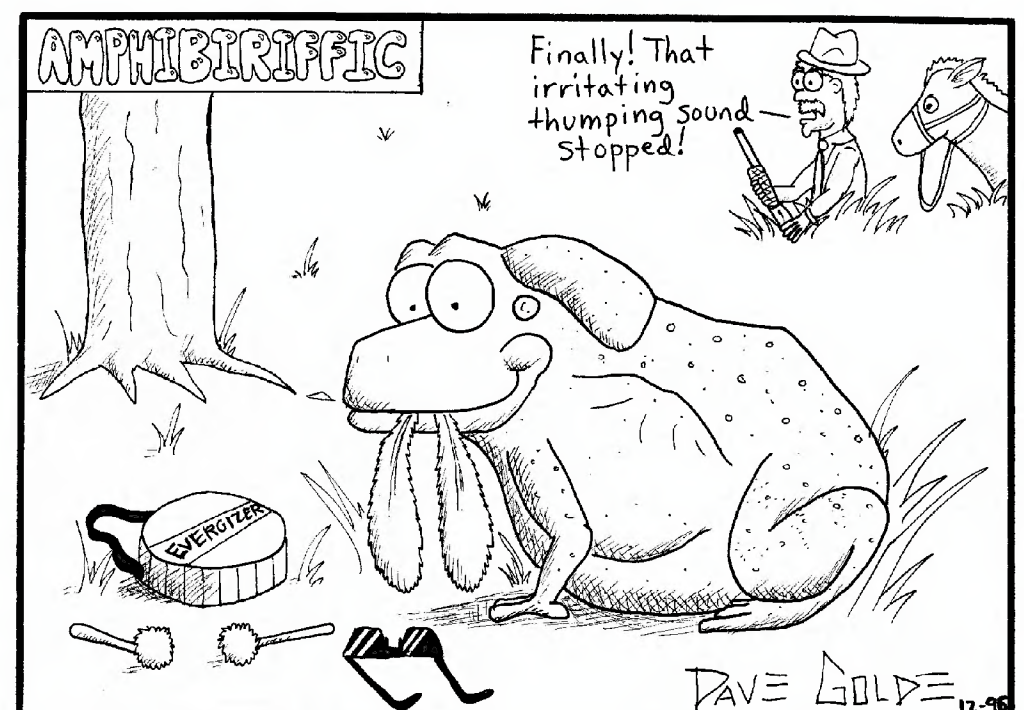
These animals are from high elevations in southwestern Asia and need to be kept cool and humid. The husbandry of

the emperor newt is nearly identical to that of the fire salamander (*Salamandra salamandra*). A spacious, well-planted, natural, forest-floor type terrarium with a lot of ground cover and a small, shallow soaking pan best duplicates the newts' natural habitat. They should be kept at a temperature range between 55 and 68°F, with the humidity around 70%. Lighting should be diffused and full-spectrum. Being nocturnal the newts will only roam their surroundings when the lights are off, and should be fed immediately prior to turning off the lights. A low wattage incandescent bulb should be mounted above the water, as emperor newts will bask while soaking.

As for feeding, a variety of slow-moving, soft-bodied invertebrates are best. Leaf-, dill-, and white worms are a good staple diet. As supplemental food wax worms, butter worms, small crickets, large fruit flies, freshly shed mealworms, etc., are usually accepted. It is probably a good idea to vitamin dust the invertebrates prior to feeding on a weekly basis. The newts should be offered food about three times a week.

A good way to keep emperor newts healthy is starting off with healthy specimens. When picking out specimens look for a full body shape, thick legs, and a full tail. Rotund individuals with frail legs and a thin tail should be avoided. Check for skin abrasions and infections, especially around the raised orange areas, feet and toes. Any individual with any abrasions, swollen feet or mangled toes should be avoided. The newts should also be soaked in a tetracycline solution, or some other broad spectrum anti-fungal and anti-bacterial solution, prior to being introduced to their new home. Emperor newts are shy and nervous and should be given two or three days to acclimate to their new surroundings. You will find that under these conditions, not only will emperors survive, they will thrive, and may even breed if properly conditioned.

Thanks for the great questions. This is the first installment of this column—hope you enjoyed it. To make this column successful I need your help. Start sending, or calling in any amphibian related questions. Please include all known common and scientific names when addressing specific animals. Call or write me at 4506 Howard Street, Skokie, IL 60076, (847) 679-1530. Thanks! Dave Golde.



HerPET-POURRI

by Ellin Beltz

Deformed frog roundup

Every so often there's a story so "big" that it echoes around in the media, with one outlet copying from another without necessarily rechecking their facts on each rebound. So it is with the "Deformed Frogs" story. The whole story (as best as I can piece it together) is that a class of Minnesota middle-school children were on a field trip on August 8, 1995, in Henderson, Minnesota, when they found a total of 22 frogs, 11 of which were deformed with extra limbs, or extra skin, or missing eyes. Subsequently, deformed frogs have been found at more than 100 sites in 54 of 87 Minnesota counties. A \$123,000 emergency legislative grant was awarded to the University of Minnesota to research the deformed frog problem. A symposium on the issue was held in Duluth, Minnesota, early in October 1996. "Early evidence points to something in the water. . . . Two theories. . . . One is that the frogs have become infested with naturally occurring parasites . . . called trematodes . . . but most of the conferees were skeptical, and so in the end was [the scientist who proposed the theory, Stan Sessions]. 'I came here convinced that parasites were the cause of deformed frogs,' Sessions said. 'But what I've heard here is causing me to think that environmental degradation is somehow contributing. . . .' One study from Canada has established a relationship between frog deformities and the local use of farm pesticides . . . [other] possible causes are viral or bacterial disease, the presence of various heavy metals known to cause birth defects, acidification of the water, and even increasing ultraviolet radiation as the Earth's ozone layer is depleted." [Washington Post/Newsday October 15, 1996, from Joseph Jannsen]

- Jim Zimmerman sent a story from the Ohio *Plain Dealer* which reports on a malformed toad found in Fayette County on September 21 near Washington Court House by Jeff Davis, a vertebrate zoology and herpetology professor at Miami University. A student who is caring for the animal says "It's fine. It's just got an extra left arm. It's a little bit smaller than the other arms and it's only got one finger. Sometimes he leans on his side and that extra arm will just prop him up." [Also the Bucyrus, OH *Telegraph Forum*, October 21, 1996, from Bill Burnett]

- "Only a few deformed frogs have been found in Wisconsin . . . including one with five legs," according to University of Wisconsin-Madison workers, reports the *Wisconsin State Journal*. One professor speculated that frogs may be more vulnerable than other vertebrates because of their aquatic larval state. Over 1,000 frogs were captured in the Fox River-Green Bay area, none were deformed. The few deformed frogs found in the state have all been from southern Wisconsin. [October 10, 1996, from Dreux Watermoelen]

- The *San Francisco Examiner* broke a local story of a Sierra College biologist who speculated that "an insidious snake parasite is infiltrating the frog population, causing grotesque malformations in the process." He's been studying salamanders and frogs with "massive deformities" in an Aptos, Cali-

fornia, pond since 1990. Up to 10 percent of bullfrog metamorphs have an extra limb, a deformed eye or a missing leg. "He told the *Sacramento Bee* that the pond is too far above mining areas to suffer from remnant toxicity. He also ruled out heavy metal contamination because the frogs showed no neurological damage. Instead, [he] suggested that a parasitic fluke left behind by carnivorous birds may be preying on the frog population to complete its reproductive cycle." [Wisconsin State Journal, October 22, 1996, from Dreux Watermoelen]

- The general public, and the editors of newspapers, are concerned. The general consensus is that the deformed amphibians are a sign of a compromised environment and that we (humans) may be next on the deformity list. Ron Haybron, writing in *The Plain Dealer*: "Coal miners used to take canaries with them to detect the accumulation of dangerous gases. . . . A dead canary meant it was time to get out of the mine. We may be getting a similar warning. . . . For the last 10 years, naturalists have been noting that amphibian populations are dwindling in an assortment of habitats around the world. . . . Amphibians managed to live through whatever influences killed off the dinosaurs, but they may not be able to survive us." [October 22, 1996, from Jim Zimmerman]

Plus ça change, plus c'est la même chose

- "The Rattle-snakes have their Winter-habitations on our Hills, in hideous Caves, and the Clefs of Inaccessible Rocks. In the Spring they come forth, and ly a Sunning themselves, but still in pretty feeble circumstances. Our Trained Bands in some of our Countrey towns, take this time to carry on a War with the Snakes, and make the killing of them, a part of their Discipline." Cotton Mather, 1712 [quoted in the Providence, RI *Sunday Journal*, October 20, 1996, from Mark T. Witwer] Timber rattlesnakes are believed to be extinct in Maine and Rhode Island and pressured in Massachusetts, Vermont and New Hampshire.

- Police in Tavares, Florida, responded to a "snake in my back yard call" from a distraught resident. They blew the 5-foot rattlesnake away with a shotgun. [Orlando, FL *Sentinel* September 11, 1996, from Bill Burnett]

On the other side of the coin

Researchers in New Mexico are radiotracking the rare ridgenose rattlesnake (*Crotalus willardi obscurus*) with help from volunteers from around the world who give up the comforts of home to live in a canvas tent two miles from the nearest trail in a practically waterless environment. Andy Holycross, the researcher in charge, from Arizona State University, is two years into a three-year field study in the Animas Mountains and has placed ads in various publications outlining the hardships of the study—yet volunteers keep coming to the remote Gray Ranch to help. So far, researchers have found that there are about four times as many ridgenose rattlers than previously known and are studying whether the Animas ridgenoses are genetically distinct from two other populations in nearby

mountain ranges. Illegal collectors for the international pet trade have damaged habitat while searching for the elusive species which reportedly brings up to \$5,000 from wealthy European collectors “seeking to round out their herpetological collections. In the United States, it is illegal to possess a ridgenose rattlesnake, dead or alive.” [Tempe, Arizona *New Times*, September 19-25, 1996, from Tom Taylor]

Federal mathematics faulty

By August 24, the National Marine Fisheries Service (NMFS) documented 2,062 dead sea turtles on southeastern Atlantic and Gulf of Mexico beaches. Many had heads and flippers cut off, or shells hacked open. Of the total 1,208 were loggerheads and 240 were Kemp’s ridley sea turtles. NMFS is reportedly unable to act unless an “Incidental Take Limit” of 515 Kemp’s ridleys is exceeded. [HEART Newsletter, October 1996; also October *Ladies Home Journal*] Does anybody but me remember a few years ago when scientists were saying there were about 500 breeding females? So now, NMFS won’t do anything until a quarter of the presumed remaining population of Kemp’s are killed in a year? What does that give the species — about three or four years to extinction?

Every one counts, said biologist

Two deer hunters on Montague Island at the entrance to Prince William Sound, Alaska, found a 170-pound green sea turtle alive, but stranded on the rocks. At first they thought it was dead, but they put it in their boat where it began to show signs of life. The Cordova Volunteer Fire Department removed it from the boat and administered first aid and a researcher at the Science Center put out a call for help on the Internet. The turtle was warmed up very slowly to prevent shock or even a heart attack, then shipped to San Diego for rehab before release. A research biologist at Hubbs-Sea World Research Institute said “The population of green sea turtles is in very serious trouble. There’s been a population drop of 90 percent in the past 50 years and we need to realize that saving even one is worth the effort.” [October 20, 1996, *Contra Costa Times* from new contributor Carla Pettey; *New York Times* from P. L. Beltz and E. A. Zorn]

Corporate math

Turtles plus tourist equal big bucks in Hilton Hotel “green team” campaign at Hilton Head Island in South Carolina. During May, the hotel’s seaside lights are turned off so that loggerhead turtles will come to their shore to nest. It’s a win-win-win equation. Tourists enjoy being part of the egg-laying experience and stay in the hotel. So the turtles lay eggs, the corporation makes money and everybody is happy. [*Chicago Tribune*, April 22, 1996, from Steve Ragsdale]

New disease in Galapagos

Rare Galapagos tortoises threatened by increasing human populations on these remote Ecuadorian islands are reported to be suffering from a new, mysterious, infectious disease which has already killed seven tortoises out of 70 afflicted on the island of Santa Cruz. Authorities have isolated the afflicted tortoises and closed the area to tourists in an effort to restrict the spread of the disease. High numbers of nematodes have

been found the in the dead tortoises’ stomachs, but researchers do not know if these worm-like creatures are linked to the deaths. [Associated Press, NY November 8, 1996, from Allen Salzberg, via e-mail]

System one, salamanders zero

The *Oakland Tribune* reports: “Although [developers’] bulldozers may have dealt the final blow, [they] didn’t destroy what could be Fremont [California’s] last unprotected clan of California tiger salamanders — a system did. Created to produce compromise between developers and environmentalists battling over the country’s last wildlands, the system is a maze of often ill-defined regulations, policies, and laws carried out by overlapping agencies who often disagree over definitions, procedures and goals. . . . At first, it seemed Fremont’s hillside initiative, which was passed in 1981 to protect the hills from development, would protect the salamanders home.” Unfortunately, the rule was open to interpretation and the ruling favored developers who will be building an 18-hole golf course on the last remaining salamander habitat in the town. [September 1, 1996; no name on clipping]

Suit seeks salamander protection

The Barton Springs salamander has some strong support from the Save Our Springs Alliance which filed a lawsuit in federal court asking that Interior Secretary Bruce Babbitt’s decision not to list the salamander as endangered be reversed. In addition the suit seeks to have the listing of the salamander reconsidered under the requirements of the Endangered Species Act. The *Austin American Statesman* reports “In 1994, Babbitt proposed listing the salamander as endangered. Two years later, he withdrew his proposal, citing a conservation agreement in which three state agencies — the Texas Department of Transportation, Natural Resources Conservation Commission and the Parks and Wildlife Department — would assist the U.S. Fish and Wildlife Department [sic] in protecting the species. The lawsuit says Babbitt, by law, could only withdraw the proposal if he found insufficient evidence to support the listing.” [October 13, 1996, from William B. Montgomery]

Swedes sacrifice turtles

An illegal consignment of 1,000 endangered turtles from Tajikistan (former USSR) was confiscated at Stockholm airport. The importer had planned on selling them as pets, but did not have the necessary import papers. Reportedly fearing infection, Swedish authorities decided to euthanize the entire consignment by freezing the animals to death even though the Tortoise Trust had offered financial assistance to save the tortoises. [*Financial Times*, October 30, 1996, from P. L. Beltz]

Box turtles listed

The state of Indiana has listed the ornate box turtle on the state endangered species list. The turtle has been a target of collectors for an expanding international trade in pet tortoises. Ornate box turtles are not federally listed, but the U.S. Fish and Wildlife Service set a zero export limit on all box turtles after consideration of many factors including the fact that more

than 71,000 box turtles were shipped overseas between 1992 and 1995. [Indiana *Courier-Journal*, November 7, 1996, from E. A. Zorn]

More snakes bite people

- The increasing popularity of snakes as pets seems to be leading to a rash of snake bite incidents as reported in the popular press. The most recent bite occurred in Cranston, Rhode Island, when a 7-year-old boy tried to play with his 8-foot Burmese python after school. The father said that the snake “has been a family pet since he was that big,” holding up one cupped hand to show how tiny “Zipper” was as a baby. Other northeastern U.S. incidents in the recent past include the capture of an unclaimed 8-foot Burmese under a car, the escape of an Egyptian cobra in Stoneham, Massachusetts, and the confiscation of four venomous snakes from a Rhode Island resident. The cobra is still missing. [Providence, RI *Journal-Bulletin*, August 31, 1996, from Mark T. Witwer]
- New York *Newsday* reports that a 50-year-old North Massapequa man secretly kept a dozen pet snakes in a home he shared with his mother had his secret blown for him when he was admitted to hospital after being bitten by an African puff adder while he was milking it for venom. A neighbor said that no one (including his mother) knew the man kept snakes. The neighbors are reportedly “furious.” Officers from the Nassau Police removed eight rattlesnakes, two African puff adders, and two unidentified snakes from the home. The man could be charged under the town’s ordinance prohibiting dangerous animals. The photo which accompanied the story showed workers carrying out a three-foot fiberglass cage and what looks to be a small fish tank. [October 30, 1996, from Joseph Janssen]

Born to be wild

Seven of 13 exotic turtles kept in a wire pen in Conway, Arkansas, escaped after a 100-pound African spur-thighed tortoise pushed over part of their fence. The owner found out when one of her neighbors showed up with a 30-pound tortoise in his arms. She quickly printed up flyers and after several adventures, all seven fugitives were returned. She estimates that some tortoises “travel anywhere from 10 to 20 miles in a day. We were amazed. We didn’t know how far these guys could go.” An escape-proof turtle house was erected on the site of the demolished pen. [Arkansas *Democrat-Gazette*, October 7, 1996, from Bill Burnett]

Poachers in Mexico

- Two men were arrested by Mexican federal police who seized 9,000 tortoise eggs poached from a Pacific breeding ground of the protected Caguama tortoise [olive ridley sea turtle] in Jalisco state. While Mexico has strict anti-poaching laws, thousands of miles of rugged and remote coastline and a limited number of enforcement officers make capture of wildlife poachers a rare event. Eggs, meat and shells from the Caguama tortoise are sold on the black market from time to time. [Concord, NH, *Monitor*, October 16, 1996, from Brian Carter]

- While an anti-government guerrilla group attacked a tourist resort near Escobilla, Oaxaca state, nearly 200 poachers descended on Escobilla Beach and “scooped hundreds of thousands of eggs the size of ping-pong balls from the sand and butchered untold numbers of female [olive ridley sea] turtles as they flailed frantically back towards the sea,” reports the *Austin American Statesman*. Mexican conservationists were appalled and describe the mega-poaching as the “single most damaging poaching attack on Mexico’s sea turtles since the government enacted the law protecting them.” [October 13, 1996, from William B. Montgomery]

Living hell

Nearly 200 birds and reptiles without food or water were found in a closed pet shop in Belmont, California. Many of the animals were starving — some had already died. “A lizard with a rotting leg and a normally plump python without any body fat were among the 190 animals found inside the Natural Life Aquarium. . . . Thirty-five animals were dead said [the Peninsula Humane Society] spokeswoman. . . .” according to the *Contra Costa Times*, October 30, 1996. The society plans to care for the animals and put survivors up for adoption. The San Mateo County District Attorney plans to file charges against the unnamed owner of the shop. [from Carla Pettey]

Jock straps recommended

A report in the Mount Horeb, Wisconsin, *Shopper Stopper* reads: “An alligator has recently been spotted in the Wisconsin River near the Mazomanie nude beach. The state Department of Natural Resources has concluded that the alligator will die from the cold weather this year.” A state senator is assembling a team of alligator trappers to try to catch the animal. Alligator sightings in Wisconsin can be phoned in to Senator Dale Schultz at (800) 978-8008.

Lost and found

A 12-foot python was found by a family bicycling near Berrien Springs, Indiana, in late October. They headed for the first house, where the farmer said that it probably was just a big black snake, but headed out to look anyway. One glance and the police were called in. An officer captured the cold snake and called around until he found a fifth-grade teacher willing to take on the care and feeding of a large snake. The teacher thinks the snake was probably a released pet. He said, “People get an animal like this when they’re small and they get unmanageable when they get big. Then, rather than find a home for them, they just release them. That’s not fair to either the animal or the neighbors.” [South Bend *Tribune*, November 1, 1996, from Garrett Kazmierski]

Looking for a write-off?

Here are some year-end suggestions to lighten your checkbook and support nonprofit herp-helpers.

- HEART (Help Endangered Animals–Ridley Turtles, P.O. Box 681231, Houston, TX 77268-1231, works for turtle excluder device implementation and Turtle-Safe Tuna programs. Director Carole Allen can be reached by E-mail at <HEARTAllen@aol.com>.

- Marine Mammal Stranding Center, P.O. Box 773, Brigantine, NJ 08203, assists stranded marine animals including turtles and indigenous animals including box turtles. This year they found a decrease in turtle strandings with only 25 washed up dead and three alive. Of the three survivors, two were loggerheads and one was a Kemp's ridley which later died of its massive injuries which appeared to be prop cuts. They have a new home page <<http://www.mmsc.org>> and an E-mail address <dolphins@acy.digex.net>.

Follow-ups

- New contributor David Wright wrote: "Last year you carried a story from Reuters of a possible feral alligator in England. My parents live half a mile from Astbury Mere, Congleton, Cheshire. The lake in question is a flooded quarry. They were on vacation at the time and didn't see any local press coverage, but local hearsay is that there were no further sightings and suggests it was only a pike. Anyway, I saw the water so frozen over last January [that] a swan trapped in the ice had to be freed by the Fire Department. The question is now clearly moot!"

- David also sent a clipping from the November 1, 1996 *Internal Medicine News* which details the latest news on the Denver Zoo alleged Komodo *Salmonella* outbreak last January. Dr. Cindy R. Friedman reported at the American Society for Microbiology meeting in New Orleans that 48 primary cases and 17 individual cases, including 39 culture-confirmed

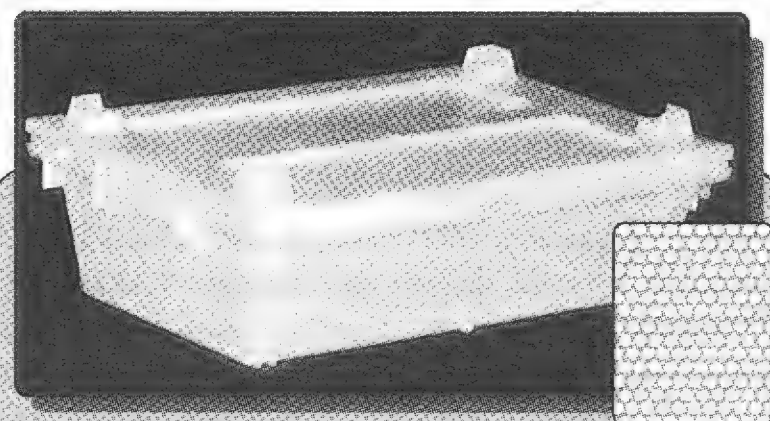
individuals, have been "traced to the zoo . . . [after] attendance at the special exhibit [of Komodo dragons]. . . . The affected individuals ranged in age from 3 months to 48 years, with a median age of 7. . . . Investigation of the outbreak showed that one of the four Komodo dragons in the exhibit had a stool culture positive for *Salmonella enteridis*. While the exhibit was set up, the floor of the pen was covered with mulch and animals were brought into the pen one at a time, so it was likely that all of them had contaminated feces on their feet, Dr. Friedman noted. In addition, investigators obtained positive cultures from samples . . . taken from sections of the wooden barrier . . . during the exhibit, a chain on posts had been placed outside the wooden barrier, separating viewers from the temporary pen, but it was possible to step over or under the chain and touch the barrier, and photographs of the event show that some visitors did that, Dr. Friedman said."

Thanks to this month's contributors and to Steve Ragsdale, Jack Schoenfelder, Ray Boldt (first appearance of the endangered species stamps Alligator and Toad), Ernie Liner, and Mark Witwer for duplicates, cartoons, letters, and other stuff not easily summarized. The file folder is now really empty—so if you've been planning to send clippings (with the date/publication slug and your name firmly attached)—make a New Year's Resolution come true. Just stuff those pages of newspaper into an envelope and address it to me: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, IL 60614-5507. Letters only to my E-mail address please <uebeltz@uxa.ecn.bgu.edu>.

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Herpetology 1996

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editors assume full responsibility for any errors or misleading statements.

A NEW GRASS LIZARD FROM JAPAN

N. Takeda and H. Ota [1996, *Herpetologica* 52(1):77-88] describe a new grass lizard, *Takydromus toyamai*, from the Miyako Island Group, Ryukyu Archipelago. The Miyako population has been considered to be conspecific with *T. smaragdinus* from the Okinawa, Amami, and Tokara Groups of the archipelago, but it is differentiated from populations of these three island groups by having a greater number of ventral rows (eight) and distinctly keeled temporal scales, and in lacking a white ventrolateral line on head and body. The definition of *T. smaragdinus* is revised accordingly and a lectotype is designated. A dichotomous key is provided for the Japanese and Taiwanese species of the genus *Takydromus*. The new species is named in honor of Mr. Masanao Toyama, a leading herpetologist of the Ryukyu Archipelago.

FEVER RESPONSE IN NORTH AMERICAN SNAKES

G. Burns et al. [1996, *J. Herpetology* 30(2):133-139] note that selection of an increased body temperature (T_b) following injection of dead bacteria and placement into a photothermal gradient was first reported for reptiles in the lizard *Dipsosaurus dorsalis*. Subsequent to the study on *D. dorsalis*, a fever response was demonstrated in other lizard species, in turtles and in a crocodilian; however, the only previous study conducted with snakes did not show significant increases in selected T_b following injection of dead bacteria or endotoxin. The objective of the current study was to examine six species of snakes, representing two geographic regions (California and Pennsylvania) and different habitat types (desert and mesic environment) for the presence or absence of a fever response after injection with a single dosage of dead *Aeromonas sobria* bacteria. Body temperatures for individuals of each species were measured for 24 h under saline injection conditions and for 48 h under bacteria injection conditions using 36 gauge type K thermocouples and a computerized data acquisition system. A substrate type thermal gradient provided a range of available surface temperatures from 13 to 40°C. Two of the desert species, *Pituophis melanoleucus* and *Arizona elegans*, did exhibit a fever response during at least one of the four 12 h periods following bacteria injection. One of the mesic species, *Thamnophis sirtalis*, exhibited a significant hypothermia in response to bacteria injection. One desert species, *Lampropeltis getula*, and two mesic species, *Elaphe obsoleta* and *Nerodia sipedon*, did not exhibit any change in T_b following bacteria injection. The results of this study indicate that the behavioral fever response can now be confirmed in snakes. Short acclimation periods, inadequate selection of a proper pyrogen and the use of a photothermal gradient may have contributed to negative results in the previous study on snakes. Use of only a single dosage of bacteria may have produced negative results in some species during this study.

HABU SICS

R. M. Waters et al. [1996, *J. Herpetology* 30(2):147-151] tested neonate, juvenile and adult habu, *Trimeresurus flavoviridis* for the occurrence of strike-induced chemosensory searching (SICS) following predatory strikes. Two separate experiments were conducted: in Okinawa, Japan, and in Tennessee. Although the experiments differed slightly in their methodology, both demonstrated clearly the occurrence of SICS in habu. Since the habu is terrestrial, while other species of *Trimeresurus* are arboreal and apparently do not exhibit SICS, this behavior may have been reevolved by habu.

TORTOISE THERMOREGULATION IN SOUTHERN FRANCE

C. Huot-Daubremont et al. [1996, *Amphibia-Reptilia* 17(2):91:102] studied behavioral thermoregulation in the terrestrial tortoise *Testudo hermanni* in southeastern France by implanting temperature-sensitive probes in free-ranging individuals. Three tortoises were monitored over a period of nine months (July to March); they maintained body temperatures close to their preferendum (approximately 30°C) for periods of several hours each day. These results are of interest as doubt has been expressed in the literature on the thermoregulatory capacities of *Testudo hermanni* in the northernmost part of its range.

CALL VARIATION IN THE BUFO WOODHOUSII COMPLEX

B. K. Sullivan et al. [1996, *Copeia* (2):274-280] examined variation in advertisement calls and body size across the range of the *Bufo woodhousii* complex to determine whether *Bufo fowleri*, *Bufo woodhousii woodhousii*, and *Bufo woodhousii australis* are diagnosable taxa. Calls were recorded and toads measured in six regions, consisting of California, Arizona, Utah, Texas, Nebraska and Iowa, and New Jersey. Pulse rate and call duration, but not frequency, were significantly related to temperature. Dominant frequency was the only call variable of the three analyzed that correlated with snout-vent length. When adjusted for temperature and size effects, calls of *B. fowleri* had a shorter duration and higher dominant frequency than the other two members of the *B. woodhousii* complex. Discriminant analysis using call variables and body size provided clear separation of *B. fowleri* from *B. w. woodhousii* and *B. w. australis*. Univariate and multivariate analyses revealed that toads from southern California were most similar to toads from south-central Arizona currently recognized as *B. w. australis*. The authors conclude that *B. fowleri* should be recognized as a species. Continued recognition of *B. w. australis* and *B. w. woodhousii* as western forms of the *B. woodhousii* complex is reasonable.

TOOTHLESSNESS IN AMERICAN ALLIGATORS

G. M. Erickson [1996, *Copeia* (3):739-743] notes that tooth replacement occurs throughout life in most reptiles, thereby insuring that worn or broken teeth are replaced by sharper successors. If formation of replacement teeth at individual tooth positions stops, localized toothlessness will result, a phenomenon common in crocodilians. In some cases the effects are so pervasive that individuals will become nearly toothless. It has been suggested that this phenomenon occurs primarily in captive animals, presumably due to disease or dietary deficiencies. The author conducted a survey of 50 captive juvenile and 50 wild-caught adult *Alligator mississippiensis* dentitions for toothless alveoli, cranial injuries and dental trauma. The patterns observed were used to determine whether toothlessness is prevalent in wild individuals and to test five proposed causes, i.e., dietary deficiencies, disease, old age, cranial trauma and dental trauma. None of the 50 subadult captive raised alligators had a toothless alveolus. However, 70% of the 50 adult wild-caught alligators had one or more toothless alveoli (range 1–33). The proposal that crocodilian toothlessness is predominantly induced by captive conditions was not supported by this study. The theory that severe dental trauma influences the formation of toothless alveoli was the most strongly supported of the five hypotheses considered.

PREY HANDLING BEHAVIOR IN YOUNG RAT SNAKES

A. Mori [1996, *Herpetologica* 52(3):313-322] examined differences in feeding behavior between two species of rat snakes (*Elaphe quadrivirgata* and *E. climacophora*) in three age classes. He compared feeding durations, proficiency of immediate constriction, and effects of prey size on prey handling method, direction of ingestion, and condition of prey at ingestion. All snakes, except one group of *E. quadrivirgata* that was raised by force feeding, were raised on mice and resultant feeding behavior was compared when they were approximately 1 yr old (yearlings) and 2 yr old (juveniles). Feeding durations were compared between species in three age classes (hatchlings, yearlings and juveniles). Yearlings and juveniles of *E. quadrivirgata* showed less efficient prey handling behavior when compared to *E. climacophora* in some points such as proficiency of constriction and condition of prey at ingestion. Mouse-fed yearlings of *E. quadrivirgata* tended to kill large mice before swallowing, whereas forcefed yearlings of *E. quadrivirgata* swallowed them alive, indicating that feeding experience with actual prey is important to develop adequate handling behavior. *Elaphe quadrivirgata* took longer to handle and ingest mice than *E. climacophora* as hatchlings but not as juveniles. Coupled with earlier studies, this suggests that *E. quadrivirgata*, a generalist feeder, is less efficient in mouse-feeding than *E. climacophora* and *E. taeniura*, endothermic prey specialists throughout early development. The author also notes that *E. quadrivirgata* is obviously more of an active pursuer, directly chasing frogs and lizards with visual cues in the open, than other typical *Elaphe*. Therefore, *E. quadrivirgata* may be different from other species of *Elaphe* not only in prey handling behavior but also in foraging behavior.

VIVIPARITY-OVIPARITY REVERSAL?

J. H. van Wyk and P. le F. N. Mouton [1996, *Amphibia-Reptilia* 17(2):115-129] examined the reproductive cycles of two species of *Platysaurus*, the only oviparous genus in the predominantly viviparous family Cordylidae, endemic to South Africa. The reproductive cycles of *Platysaurus capensis* and *P. minor* were determined using data obtained from field caught and museum specimens. Males of both species exhibit testicular recrudescence during autumn (April–May) and maximum testicular volumes together with peak spermiogenic activity occur during winter through early summer (July–November). Small testicular volumes associated with testicular regression occur during mid-summer (December) through early autumn (March). Similarly, females of both species begin vitellogenesis in autumn, culminating in ovulation during spring (September–October). Females are ovigerous in summer (November–December). Clutch size is fixed on two eggs. In both species, male and female cycles are well synchronized. The fact that the autumn/winter ovarian cycles of these oviparous lizards correspond to that of viviparous members of the family Cordylidae adds to the data that suggest that the oviparous mode of reproduction in the genus *Platysaurus* represents one of the few known cases of an evolutionary reversal from the derived viviparous mode. Along with the viviparity–oviparity reversal a postnuptial–prenuptial testicular cycle reversal is suggested. Data presented in this paper support the hypothesis that the ancestral oviparous *Platysaurus* evolved on the Mozambique lowlands from a viviparous montane *Pseudocordylus* ancestor.

MORPHOLOGY OF SOUTH CAROLINA ANOLES

T. A. Jenssen et al. [1995, *Herpetologica* 51(4):401-411] report morphometric data for 721 *Anolis carolinensis* from a pine-oak community near Aiken, South Carolina. They recorded an adult male:female ratio of 1.18:1. For the sample, a sexual dimorphism of larger males was reflected in snout-vent length (SVL) and body mass, with an average 10% bias for SVL and 30% for mass. Proportioned to respective SVL, tail length, head length and head width tended to be larger in males. However, reduced major axis analyses indicated that these sex-biased dimorphisms were isometric, primarily reflecting the same male-larger scale relationship, and not disproportionate sexual dimorphic morphologies. The percent frequency of regenerated tails was unusually low (8%) and similar for both sexes. Coefficients of body condition indicated that lizards were heaviest during the post-breeding season (August–November) and lightest during the breeding season (April–July). Comparison of data from this population in South Carolina to those from other conspecific populations and anoline species suggests that (1) the intersexual difference in SVL increases with latitude, (2) the SVL/tail length ratio of *A. carolinensis* is intermediate between anoline “jumpers” and “runners,” indicating a generalist at locomotion, and (3) at present, the sexual selection hypothesis, in contrast to the competition avoidance hypothesis or the female fecundity hypothesis, best explains the sexual size dimorphism observed in a northern latitude population of *A. carolinensis*.

NATURAL HISTORY OF *LITHODYTES LINEATUS*

W. W. Lamar and E. R. Wild [1995, Herpetol. Nat. Hist. 3(2):135-142] note that diurnal activity among juvenile lepto-dactylid frogs of the species *Lithodytes lineatus* and apparent ontogenetic color change in one population from Colombia support the hypothesis that *L. lineatus* is part of a mimetic complex involving *Epipedobates femoralis*, *E. hahneli*, *E. myersi*, *E. pictus* and *E. trivittatus*. Calling behavior was twice seen to involve two male *L. lineatus* positioned nose-to-nose and calling asynchronously. *L. lineatus* seems to use burrows opportunistically; tunnels in the nests of leaf-cutting ants (*Atta*) are a frequent choice. The tadpoles of *L. lineatus* are bright pink, and school in a distinctive manner. Two series of larvae vary considerably in the presence of keratinized jaw sheaths and the number and size of labial tooth rows.

DISTRIBUTION AND HABITAT OF *RHYACOTRITON*

L. V. Diller and R. L. Wallace [1996, J. Herpetology 30(2): 184-191] examined the distribution and habitat of *Rhyacotriton variegatus* in streams of managed forests in north coastal California. In 1990-1994 they found 1475 salamanders from 220 streams through surveys of randomly selected first and second order streams and incidental searches. Of 71 headwater streams randomly selected to relate landscape variables to the presence/absence of *R. variegatus*, 57 (80.3%) contained salamanders. Geological formation was the only landscape variable that predicted the presence of *R. variegatus* in a stepwise logistic regression model. A second survey was conducted to determine which habitat variables of stream reaches were related to the presence/absence of *R. variegatus*. Thirty-one of 64 stream reaches contained salamanders and stream slope (gradient) was the only variable of 20 measured that predicted the presence of *R. variegatus*. Reaches with salamanders had significantly higher slope, more small boulders, and less sand. No other variables, including canopy closure and water temperatures, were significant. An additional survey to further define the microhabitat for *R. variegatus* showed that abundance was positively related to stream slope and that this species was found more often than expected in high gradient riffles. The preferred substrate was gravel with smaller amounts of silt/clay, sand, and cobble. The authors discuss the past and future impacts of timber harvest on this species in north coastal California.

A NEW SPECIES OF *HYLA* FROM OAXACA, MEXICO

J. R. Mendelson III and K. R. Toal III [1996, J. Herpetology 30(3):326-333] describe *Hyla labedactyla*, based on a single specimen from the Sierra Madre del Sur of Oaxaca, Mexico. The new species has large terminal discs on, and basal webbing between, the fingers; it is tentatively placed in the *Hyla bistincta* species group. Based on the examination of material collected subsequent to the publication of the descriptions of *Hyla chryses* Adler and *Hyla mykter* Adler and Dennis, morphological variation in these species is reviewed. Rediagnoses of each species are presented that incorporate new morphological observations and comparisons with other species that have been described more recently.

TWO SNAKE SPECIES IN SOUTHWESTERN IDAHO

L. V. Diller and R. L. Wallace [1996, Herpetologica 52(3): 343-360] studied the comparative ecology of *Crotalus viridis* (western rattlesnake) and *Pituophis melanoleucus* (gopher snake) during 1975-1980 within and near the Snake River Birds of Prey Area in southwestern Idaho. The authors handled a total of 454 *C. viridis* and 455 *P. melanoleucus* (including 123 and 24 recaptures, respectively) during the study. Variables studied were: seasonal and daily activity patterns, body temperatures, habitat, and food. Overlap in resource use was relatively high for all dimensions measured. Seasonal activity was similar for both species (Horn's index of overlap, R_0 , was 0.94). Both species showed peak activity in late May and early June; neither had a secondary peak. Both species had unimodal daily activity patterns in spring and overlap was high ($R_0 = 0.88$). By summer, however, *C. viridis* had a weakly bimodal daily activity pattern and *P. melanoleucus* was strongly bimodal. Overlap for summer daily activity was reduced ($R_0 = 0.79$). Both species seldom were captured after dark. Body temperatures were similar between the species ($R_0 = 0.92$). Habitat was one of the most highly partitioned resources ($R_0 = 0.70$). *C. viridis* was found primarily in rocky habitats; *P. melanoleucus* was found throughout all habitats. Levin's standardized measure of niche breadth for habitat was 0.21 for *C. viridis* and 0.78 for *P. melanoleucus*, indicating greater specialization for *C. viridis*. *Crotalus viridis* tended to specialize on one prey species; *P. melanoleucus* showed no distinct prey preferences. Prey species was the other most highly partitioned resource with Horn's index of overlap ($R_0 = 0.70$) equal to that for habitat. There was a significant positive correlation between snake body size and prey size over the entire size ranges of both species of snakes. Once adult body size was attained, however, there was little such correlation. Rattlesnakes showed strong prey selection ($P < 0.001$) for Townsend ground squirrels (*Spermophilus townsendii*); gopher snakes showed no preference for any of several major prey species ($P > 0.70$). Major differences in reproductive traits were seen. *C. viridis* tended to have larger fat reserves and females often gave birth biennially; *P. melanoleucus* tended to have smaller fat reserves and females reproduced and deposited eggs annually. Differences in resource utilization between these two species appear to be shaped by phylogenetically determined life-history and morphological differences.

A NEW ANOLE FROM CHIAPAS

A. N. M. de Oca [1996, J. Herpetology 30(1):19-27] describes *Anolis alvarezdeltoroi*, a new species with smooth midventral scales from the southernmost ridge of the Northern Highlands of the Chiapas physiographic region, Chiapas, Mexico. The new species is a medium-sized anole with most of the diagnostic characters of the *A. schiedii* group. The new species differs, however, from all species placed in this group by having narrower digital pads, terminal phalanges of the digits remarkably elongated, a well-developed dewlap in females, and 24 presacral vertebrae, and by attaining slightly larger body size. The latter three characters are shared with *A. johnmeyeri*. The new species is compared with other species with smooth mid-ventral scales in Mexico and northern Central America.

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Unofficial Minutes of the CHS Board Meeting, November 15, 1996

The meeting was called to order at 8:00 P.M. Board members Chris Lechowicz, Jenny Picciola, and Audrey Vanderlinden were absent.

Officers' Reports

The minutes of the October board meeting were not read due to the absence of Recording Secretary Audrey Vanderlinden. The Treasurer's Report was reviewed and accepted. John Driscoll reported that current membership stands at 1369.

Committee Reports

1997 Reptile-fest: Lori King-Nava gave an update on preparations for the Memorial Day show, to be held again this year at the Clarion O'Hare. A committee has been formed to actively seek publicity for the event.

Nominating Committee: Acting chair Steve Spitzer discussed the printing of ballots, as well as election night protocol.

Workshops: A new coordinator still needs to be found to allow the workshop program to continue.

Grants: Chris Lechowicz has been attempting to find a Grants Committee chairperson for 1997. Chris was not present to comment.

Sales: Jenny Vollman discussed the status of some items, and pricing and availability of others. There is still no concrete plan as to the future of the "CHS Bookstore."

Old Business

Art Nohlberg stated that the plaques for this year's award recipients will be ordered during the coming week.

New Business

Steve Spitzer had prepared a schedule of dates for the 1997 board meetings. He distributed this and asked for any questions or changes. Steve informed the board that North Park Village would like us to complete our meetings by 9:30 P.M. A discussion ensued as to how that would affect the meetings.

It was decided that the meetings next year will start promptly at 7:30. There was also some discussion as to the future site for general meetings.

Round Table

Jack Schoenfelder asked the board to think about the possibility of allowing private dry goods vendors at the general meetings. A discussion followed.

The meeting was adjourned at 9:30 P.M.

*Respectfully submitted by the Recording Secretary
Audrey Vanderlinden*

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American Federation of Herpetoculturists: A nonprofit national membership organization of herpetoculturists, veterinarians, academicians and zoo personnel involved in the captive husbandry and propagation of amphibians and reptiles. Membership includes highly acclaimed magazine, *The Vivarium*, dedicated to dissemination of information on herpetocultural accomplishments, herp medicine, breeding and maintenance, field studies and adventures, enclosure design and much more. AFH membership is \$26. Send information requests to: AFH-News, P.O. Box 300067, Escondido CA 92030-0067.

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (904) 495-9024.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, \$.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: high quality feeder mice. Shipped UPS Next Day Air. All mice are properly processed to insure a quality product. Fourth year of production and supply of frozen feeder mice. Prices: pinks, \$25/100; fuzzies, \$30/100; weanlings, \$35/100. Also available are 4 oz. + rats, \$100/100. Quantity discounts available. The Mouse Factory, P.O. Box 85, Alpine TX 79831, (915) 837-7100, Ray Queen.

For sale: from Bayou Rodents, excellent quality feeder mice and rats. Every size available. Pinks starting at \$20/100. Orders are shipped by overnight service Monday thru Thursday. We accept Visa, MasterCard and Discover. For more info, contact Rhonda or Peggy, (800) 722-6102.

For sale: In stock, Flex-watt and Ultra-therm heating products. **Frozen rodents** always available. Mice: pinks—crawlers, 3/\$1; weanlings, 40¢; subadult, 50¢; adults, 65¢; large adults, 75¢. Rats: small, 85¢—\$1; medium, \$1.25–2.00; large, \$2.25–2.75; jumbo, 3/\$10. Call on quantity discounts [note: discount on orders picked up at CHS meetings]. Live rodents available at higher prices. **Available now:** newsletter/catalog—many unique/hard-to-find herp husbandry items. Send business-size SASE for catalog, or call. Scott J. Michaels, D.V.M, Serpent City, P.O. Box 657, Island Lake IL 60042, (815) 363-0290.

For Sale: **Reptile D-lights.** Our 8% is the first and only fluorescent light bulb that duplicates the UV-B output of the sun while having an excellent color rendition (CRI 91). Let your reptile make *exactly* the right amount of vitamin D. Stop under- or overdosing with all those powders. A must-have for iguanas, uromastix, bearded dragons and all diurnal basking lizards. Get yours now! Available in 18", 24", 36", 48". \$34.95 each plus shipping. In California please add 7.75% sales tax. Dealer inquiries invited. Scott Solar (909) 627-3274; 9 – 9 Pacific Time or; Reptek@aol.com anytime. For Animal Use Only.

For sale: reptile cage disinfectant and deodorant. Kills many types of infectious disease detrimental to herps. \$3.91 for 2 oz (makes 1 gallon). Wholesale and quantity prices available. Make checks payable to Bengal Pets, Inc., 1088 Chapman Road, Jesup GA 31545, (912) 530-6384.

For sale: TANKS! All glass 55-gal., \$50; 38-gal., \$40; 29-gal., leaks, \$20; 20-gal., \$10; six 10-gal., most leak, \$5 each; three 5-gal., \$5 each; misc. tops for 5's and 10's, \$5 each; black iron stands, two 10-gal. and one 20-gal., \$15 each. Harry, (773) 728-7490.

For sale: herp books. *Turtles, Tortoises and Terrapins* by Fritz Jürgen Obst, 1986, 231 pp., many color and b&w photos, figs., \$52; *A Field Guide to Reptiles of the Australian High Country* by Jenkins and Bartell, 1980, 278 pp., color photos, keys, includes *Tiliqua* and *Egernia*, \$32; *Forty Queensland Lizards* by Floyd Dale, 1973, 64 pp., range maps, excellent drawings of each species, softbound, \$15; *The Cold-blooded Australians* by Gunther Schmida, 1985, 208 pp., outstanding color photos, \$62. All books in excellent condition. Prices postpaid. William R. Turner, 7395 S. Downing Circle W., Littleton CO 80122, (303) 795-5128.

For sale: herp books. *Snakes and Snake Hunting* (1st ed.) by Kauffeld, \$35; *Snakes: The Keeper and the Kept* (ex-lib) by Kauffeld, \$35; *Handbook of Salamanders* by Bishop, \$35; *Handbook of Lizards* by Smith, \$35; *Living Amphibians of the World* by Cochran, \$40; *Living Reptiles of the World* by Schmidt and Inger, \$40; *In Search of Reptiles and Amphibians* (softbound) by Bartlett, \$12; *Dangerous Snakes of Australia* (softbound) by Mirtschin and Davis, \$9; *Venomous Reptiles* by Minton and Minton, \$20; *The South American Herpetofauna* (softbound) by Duellman, \$35. Books in good to mint condition. Postage extra. Jim McDougal, (516) 744-2498. [NY]

For sale: **redfoot tortoises**, c.b. yearlings, \$175, 2-year-olds, one male and one female, \$400/pair; c.b. Sinaloa milksnakes, feeding, \$100/pair, \$55 each. Marc, (708) 597-6172.

For sale: one male and one female African barking geckos (*Ptenopus g. garrulus*), perfect shape, nice colors, \$325/pair. Excellent breeder geckos—female *Paroedura androyensis*, \$40; male leopard gecko (high yellow phase), \$45; male *Oedura monilis*, \$95. Philip Tremper, P.O. Box 264, Clintonville WI 54929, (715) 823-5873.

For sale: Still available—'96 hatchling leopard geckos, bearded dragons, eastern milks. Let's talk, price, trade. Henry Cohen, 24 St. Johns Place, Buffalo NY 14201, (716) 881-6724.

For sale: Beautiful, captive-born animals. Bearded dragons—reds, \$75–125, true yellows, \$125, reds/sandfires, \$125, **vitikins**, \$75; adult male bearded dragons—reds, \$200, normals, \$125; bluetongue skink babies, \$150; frilled lizard babies, \$400; *sulcata* tortoise babies, \$100; one male and two female *sulcata* tortoises, adult breeding trio, one female is gravid, \$2000/group. Minimum for shipping, \$100. No minimum for pick-up. Ask about quantity discounts. **Midwest Reptile Farm**, Elk Grove Village IL, (847) 593-2831.

For sale: captive-bred Dumeril's monitors, *Varanus dumerilii*, \$330 (10% discount to herp society members, \$297). Unrelated bloodlines hatched January '96 and May '96. Mike, (770) 987-3933. [GA]

For sale: 5' female albino southern pine snake, 2 years old, \$195; gigantic female northern pine, with crimson highlights, \$175; robust male chocolate Cal. king, \$45. John, (312) 772-8772, eves. til 11:30 CST.

For sale: one c.b. '95 male *Lampropeltis getula floridana*, nice color, monster feeder, \$35; one c.b. '95 unsexed *L. g. "goini"*, nice black stripe w/ speckles and blotches, also monster feeder, \$50. Call (773) 465-5378.

For sale: tricolors, albinos and a few secret projects. Send SASE for free price list. Robert Applegate, P.O. Box 338, Campo CA 91906, (619) 478-5123. Also, free husbandry consultation by phone, as a service to the herp community.

For sale: one male and two female Crawl Cay boas, c.b. '94, 3', nice colors, very rare dwarf boa, \$500 each; one male and two female Hogg Island boas, c.b. '96, Sears stock, very light, nice pink/orange, \$275 each; one male and one female anerythristic Honduran milks, c.b. '96, \$1800/pair; two male and two female Guyanan redtails, c.b. '96, beautiful colors, lots of pink, all are aberrants with up to two-thirds solid striping, gorgeous, \$275–325 each; one male albino sand boa, c.b. '96, very nice orange, \$800. Many other snakes (trinkets, b&w Cal. kings, variable kings, Durango mountain kings, *knoblochi* etc). Phone/fax (619) 265-7557. [San Diego]

Advertisements (cont'd)

For sale: jungle carpet pythons, *Morelia spilota cheynei*, the real thing from the finest bloodlines in the country. A few well started '96 babies still available at hatchling prices. Beautiful black and yello. I have been producing this subspecies since 1988. Also available, one male and two female captive raised Borneo blood pythons, young adult breeders, very colorful. Bill Montgomery, P.O. Box 656, Elgin TX 78621, (512) 285-5520 (days), (512) 285-9631 (evenings) or E-mail <TILQUA@aol.com>.

For sale: **from Gaines Reptiles, Inc.** I am now offering two pairs of **South American tricolor hognose (first captive-bred offspring offered in the U.S.)** at \$4000/pair. Also, accepting \$1000 deposits on 1997 offspring. Another surprise is that I am now offering **albino, heterozygous, and possible heterozygous boa constrictors**, c.b. in September. Other currently available inventory includes one male and one female c.b. '94 Dumeril's boas, \$1200/pair; one male and one female c.b. '93 northern blue-tongue skinks, \$600/pair; two male and six female c.h. '96 Tarahumara mountain kingsnakes, \$350-450 each; two male and four female c.b. '95 rough-scaled sand boas, \$350/trio; one male c.h. '95 Ruthven's kingsnake. Bill Gaines, (317) 878-4042 or (800) 689-3040 (voice). [Trafalgar IN]

For sale: c.b. '96 babies — 22 green tree pythons from two unrelated clutches, \$550 each or two for \$1000; 16 male and 38 female Solomon Island ground boas (*paulsoni*), father is Isabel Island phase (light), anole feeders, \$25 each, quantity discounts; six male and three female Borneo short-tail pythons, \$200/pair; one male and three female Queensland carpet pythons, \$225/pair; five Amazon tree boas, yellows, oranges, \$150 each. Jerry Conway, 7154 N. University Drive, #102, Tamarac FL 33321, (954) 722-8758.

For sale: **Madagascan ground boas**, c.b. 11/95, call; **Surinam red-tail boas**, c.b. 8/96, "classic" beauties, \$300-350; Australian water pythons, c.b. 5/96, bright yellow bellies, \$175; Malaysian blood pythons, \$250 each; Argentine boa constrictors, \$250 each; locality gray-banded kingsnakes, \$125-160; Mexican milksnakes, \$50; Pueblan milksnakes, apricot & tricolor, \$65-100; Honduran milksnakes, anerythristic and possible heteros, \$150-800; albino Sonoran gophers, \$50; California kingsnakes, \$30-40. Call or fax Russ Walker, (409) 594-5554. [TX]

For sale: Send SASE to CRC, P.O. Box 0731, Las Vegas NV 89125-0731 for brochures and list of species available. Limited bookings available for guided tours of herpetological collection sites in Nevada. Call/fax (702) 471-0240. E-mail <fpglwmau@anv.net>.

For sale or trade: 70 hatchling African spur-thighed tortoises (*sulcata*), \$75 each. Will trade for the following: male and female Libyan Greek tortoises that were imported last year; also Chaco, marginated, Herrmann's, stars, radiateds, leopards, Galapagos. I have paperwork. Also will trade for jeweled lacertas (*lepidus*). Bob, (602) 919-2872 mobile, or (520) 868-4659 home. [Florence AZ]

Pet-sitting service: Complete in-home pet and plant care, specializing in reptiles and other unique pets. Dogs and cats welcome with open arms, midday dog walking. Experienced and dependable service by devoted animal lovers, serving Chicago and suburbs, reasonable prices, fully insured and bonded. Ask about our habitat consultation and custom-made cages. Exotics & More, (312) 728-5457 or page us at (708) 750-3688.

Repto-rama: Live educational presentation of local herps and herps of the eastern U.S. for parties, scout groups, nature centers etc. Dave, (847) 679-1530.

Software: **TRACS™** record keeping and breeding software for IBM and compatibles. TRACS™ Professional, a full system, \$129; TRACS™ Lite, for the hobbyist, just \$39.95. Add \$5 s&h, \$10 outside U.S. Send for a working demo for \$10 (cost may be applied toward purchase). Or download demo free via Internet at <<http://www.herp.com/tracs/>>. Send check or money order to Leapin' Lizards, 23852 Pacific Coast Highway, #375, Malibu CA 90265.

Tours: Adventure tours to Madagascar! Join **Bill Love** seeing and photographing fauna and flora, heavily herp-biased, across the world's least known mini-continent. Much more fun than shoveling snow November-February. Contact him at: BLUE CHAMELEON VENTURES, P.O. Box 643, Alva FL 33920. TEL: (941) 728-2390, FAX: (941) 728-3276, E-MAIL: <blove@cyberstreet.com>.

Tours: **Road-riding in Costa Rica!** Treat yourself to the trip of a lifetime! Learn about tropical herps, find them, photograph them, see where they live. **Greentracks, Inc.**, offers the best herpetological tours led by internationally acclaimed herpetologists and herpetoculturists. See the Amazon, visit cloud forests, experience the world's greatest rainforest, super sunsets and good company. Call (800) 9-MONKEY.

Video: *Rattlesnake Hunting*, a 60-minute video by a 30-year veteran collector. Don't miss this one! It's as close to being in the field as you can get. (Not a slick commercial production.) Send check or money order for \$19.95 plus \$3 postage & handling to: D. Wheeler, 2705 Sunset Trail, Riverwoods IL 60015. Allow 4-6 weeks for delivery.

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. - 1:00 P.M. or after 11:30 P.M. Eastern Time.

Wanted: I am desperately in search of the following herp books: 1.) *Herpetology* by Kenneth R. Porter, published by W. B. Saunders in 1972; 2.) *Laboratory Anatomy of the Iguana* by J. C. Oldham and H. M. Smith, published by Wm. C. Brown in 1975. If you have any of these books or can be of any help in my search for them, please contact Jody Hibma, 3300 E. Deerfield, H-245, Mt. Pleasant MI 48858, (517) 774-3895 days, or (517) 772-7125 evenings; E-mail <jody.c.hibma@cmich.edu>

Wanted: Pictures, films, information on natural habitat, breeding etc. of African dwarf crocodiles, *Osteolaemus tetraspis* for the biggest research project ever on this species! Sobek Pierson, 2974 Liberty Avenue, Las Vegas NV 89121.

Wanted: Looking for investors interested in opening a reptile museum/pet store/shelter dedicated to educating the general public, performing educational programs and finding good homes for unwanted animals. Please contact Dave Golde with any information on potential investors or government funding, (847) 679-1530.

Wanted: Styrofoam boxes, any size or shape so long as they're not flimsy, preferably with cardboard liners, willing to pay from \$2 to \$5. Bring to CHS meetings. Scott J. Michaels, D.V.M., Serpent City, (815) 363-0290.

Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (312) 588-0728 evening telephone, (312) 782-2868 fax, E-mail <MADadder0@aol.com>.

HERP-ACROSTIC #12 by Mike Dloogatch

1	G	2	R	3	D		4	C	5	B	6	D	7	G		8	C	9	X		10	B	11	G	12	D		13	F	14	H	15	M	16	A	17	S	18	Y	19	G	20	D	21	E				
		22	D	23	Y		24	L			25	Q	26	F	27	W	28	O		29	D	30	J	31	K	32	M	33	C	34	R	35	Y	36	N		37	C	38	U	39	Q	40	D	41	T			
		42	I	43	Y	44	A	45	U			46	D	47	K	48	S	49	E	50	Y			51	D	52	A		53	D	54	L	55	V	56	F	57	S	58	T	59	O		60	C	61	U		
62	D			63	B	64	E	65	X	66	H			67	M	68	V			69	R	70	U	71	G	72	A		73	C	74	Y	75	D	76	G	77	E			78	I	79	W	80	R	81	M	
		82	I	83	U	84	P	85	Y	86	B	87	K	88	N	89	D	90	J			91	D	92	H	93	F	94	L			95	O	96	T	97	B	98	Q	99	X			100	C	101	T	102	D
		103	X	104	M	105	V	106	S			107	I	108	R	109	A	110	Y	111	Q	112	N	113	U			114	H	115	T			116	P	117	C	118	D			119	O	120	E	121	K	122	I
123	B			124	N	125	G	126	D			127	C	128	S	129	M	130	T	131	X	132	O	133	R	134	B	135	Y			136	G	137	J	138	F	139	M	140	V	141	D	142	Y			143	S
144	G	145	I	146	U	147	W			148	Y	149	D			150	Y			151	A	152	U	153	W	154	X	155	B	156	C			157	Y	158	I	159	N	160	E	161	R			162	D	163	G
		164	A	165	V	166	U	167	D			168	M	169	E	170	C	171	S	172	Y			173	K	174	U	175	H	176	J	177	I	178	D	179	Q	180	Y	181	F			182	G	183	R		
184	B	185	O	186	P	187	G	188	A	189	M			190	Y	191	I	192	C	193	S			194	B	195	D			196	U	197	R	198	E	199	G			200	X	201	Q	202	C	203	D		
204	T	205	G	206	D		207	D	208	B	209	U	210	S	211	N																																	

How to solve this puzzle: The diagram, when filled in, will contain a quotation from a published work on herpetology. The numbered squares in the diagram correspond to the numbered blanks under the WORDS. The letter at the upper right of each square indicates the WORD containing the letter to be entered in that square. The WORDS form an acrostic: taking the first letter of each in order spells out the name of the author and the title of the work from which the quotation is taken. The solution will appear in next month's *Bulletin*.

CLUES	WORDS	
A. Congo eel; ditch eel.	44151521641618872109	M. These can help adders to multiply (two words). 12967139168104321581189
B. Water moccasin.	1841348619420815563597 10123	N. Color commonly ascribed to <i>Drymarchon corais couperi</i> . 1591122118836124
C. Contending about differences of opinion (two words).	1276033837156192170117 202100734	O. Fang covering. 951851191322859
D. The earth doth like a snake____ (Shelley <i>Hellas</i> 1062-1063) (five words).	292061411264091118203207 2289536216775312 102149195511621782046 6	P. The male of various animals. 11618684
E. Viviparous African elapid.	21641601981691204977	Q. Within the living organism (two words, Latin). 111982011792539
F. African nation where one might expect to see <i>Python anchietae</i> .	13138181569326	R. Bird of the genus <i>Chordeiles</i> . 1833416110813321976980
G. Aurora borealis (two words).	125163711920519918776144 1827111136	S. Whiplike locomotory organ of some protozoans. 106481431717121012857193
H. Bikini, for example.	926611417514	T. Dr. Doolittle's creator (last name only). 419611520413010158
I. Like a thread snake's upper jaw, for instance.	421771451221587819182107	U. _____ whiptail: <i>Cnemidophorus hyperythrus</i> . 83209166146113174456138 15270196
J. Hybrid citrus fruit of Jamaican origin.	3090176137	V. Smoothbore's successor. 5514068105165
K. <i>Crotalus atrox</i> pattern element.	121874731173	W. Currier's partner. 7915314727
L. Publisher of <i>The Vivarium</i> (abbreviation).	249454	X. Bowfin. 99200131915465103
		Y. Phrase used to denote some lurking danger or suspicious person (five words). 150190180181108514835157 43172142135745023

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, December 18, at the Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, in Chicago. **This is one week earlier than the usual “last Wednesday of the month” because of Christmas.** CHS Treasurer **Gary Fogel** will speak on the husbandry and breeding of cordylid lizards. Gary’s presentation is both highly informative and highly entertaining.

We are required to use the entrance on the west side of the museum. We have permission to use the staff parking lot to the west of the museum. Entrance to this lot is from McFetridge Drive, the wide street just to the south, between the museum and Soldier Field. **Due to the recent rerouting of Lake Shore Drive, there have been some changes in traffic flow — follow the signs to the “Museum Campus.”** From southbound Lake Shore Drive this means a right turn onto Roosevelt Road followed by a left on Columbus Drive. The #146 CTA bus goes directly to the museum. Unfortunately, it does not operate past 9:00 P.M. However, after the program anyone needing a ride to a CTA stop will have no trouble finding one—just ask any board member.

Turtle Club

The Chicago Turtle Club will meet Sunday, December 22, 1:00–3:30 P.M., at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago.

Amphibian Club

The Amphibian Club will meet Friday, December 27, 7:00–9:00 P.M., at the Skokie Public Library, 5215 Oakton. Dave Golde will speak on Chicago area salamanders. For more information, call Dave Golde at (847) 679-1530.

ELECTION OUTCOME

As a result of the elections held November 27, 1996, the following officers and members-at-large will serve on the 1997 CHS Board of Directors.

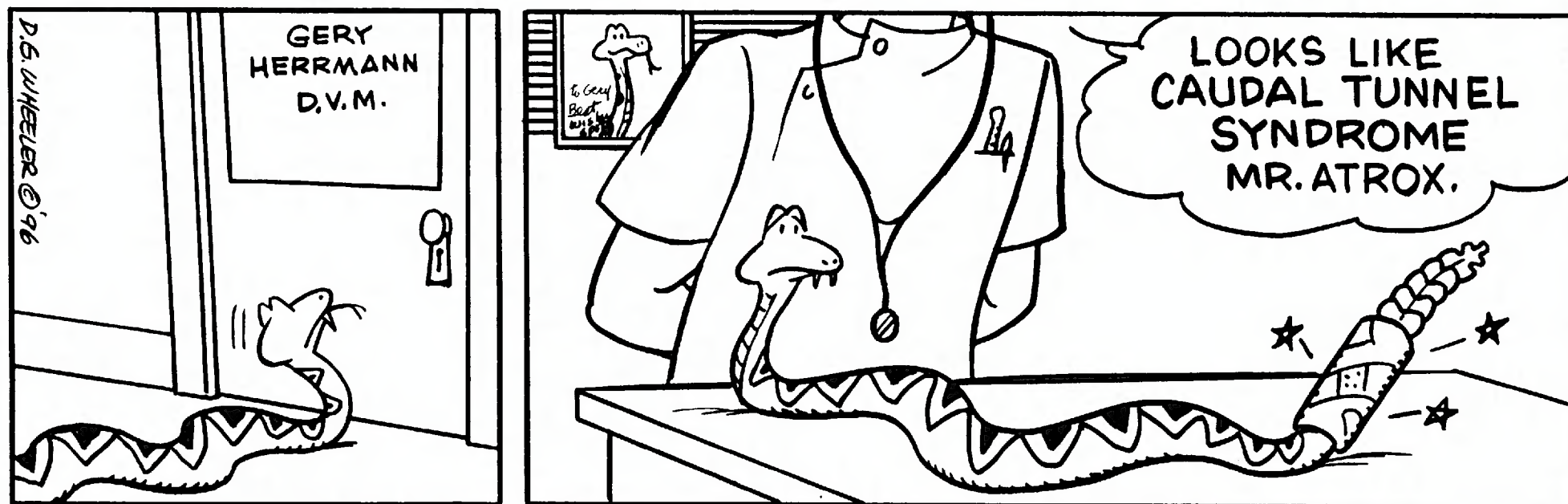
President:	Steve Spitzer	Membership Secretary:	John Driscoll
Vice-president:	Jack Schoenfelder	Sergeant-at-arms:	Ron Humbert
Treasurer:	Gary Fogel	Members-at-large:	Ty Park
Recording Secretary:	Audrey Vanderlinden		Jennie Picciola
Corresponding Secretary:	Gary Kostka		Mike Scott
Publications Secretary:	Mike Dloogatch		Jenny Vollman

Chris Lechowicz will not be able to serve on the board as immediate past president because he is moving to downstate Carbondale to attend Southern Illinois University.

AWARDS PRESENTATION

Each year the Chicago Herpetological Society bestows awards upon a few select members in recognition of their service to the organization. At the November 27 meeting three awards were presented. **Joan Moore** received the CHS Lifetime Service Award. This special award is given only infrequently to a person or persons chosen by the Awards Committee, subject to the approval of the president. It is given in recognition of many years of exceptional service to the CHS. **Jennifer Picciola** received the CHS Merit Award. This honor is given each year to one or more individuals selected by the Awards Committee for outstanding service. **Tonya Maris** received the Presidential Service Award, presented each year to a person selected by the president as having been particularly helpful to the president or to the CHS Board.

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